



WOSC10

## PREVIEW QUESTION BANK

Module Name : Mech. Prod. Ind. Civil Structural Const. Transp. Materials

Science Engg-E

Exam Date : 25-Mar-2018 Batch : 11:00-13:00

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S r. N o.	Client Question ID	Question Body and Alternatives	Marks	Negative Marks
Objective Question				
1	1	<p>Federation Cup, World Cup, Allwyn International Trophy and Challenge Cup are awarded to winners of</p> <p>A1 : Tennis</p> <p><b>A2 : Volleyball – (Correct Alternative)</b></p> <p>A3 : Basketball</p> <p>A4 : Cricket</p>	10	0.25
Objective Question				
2	2	<p>Which is the first country in the world to use drones for national mail service?</p> <p>A1 : Russia</p>	10	0.25

		<p><b>A2 France – (Correct Alternative)</b> :</p> <p>A3 Sweden :</p> <p>A4 China :</p>		
Objective Question				
3	3	<p>Consider the following materials/objects:</p> <p>A. Comea B. Diamond C. Silicon D. Sodium Chloride</p> <p>The above materials/objects when arranged in increasing order of refractive index would be as follows:</p> <p>A1 ADCB :</p> <p><b>A2 ADBC – (Correct Alternative)</b> :</p> <p>A3 DABC :</p> <p>A4 DACB :</p>	1. 0	0. 25
Objective Question				
4	4	<p>Various developed countries often claim that cattles in less developed countries are responsible for huge release of green house gases, thus causing green house effect. The developed countries often use this logic that these countries have lot of low yield cattle and if high yield cattle are adopted on a large basis, then release of significant amount of greenhouse gases can be checked from releasing in the atmosphere. Cattles release the greenhouse gases due to:</p>	1. 0	0. 25

		<p><b>A1 Methanogenic bacteria in the stomach – (Correct Alternative)</b></p> <p>A2 : Improper handling of cow waste (eg: cow-dung, urine,etc.)</p> <p>A3 : Improper handling of leftover fodder</p> <p>A4 : High use of chemical fertilizers in agriculture</p>		
Objective Question				
5	5	<p>Consider the following statements and select the wrong option</p> <p>A1 If a person is stung by a honeybee it causes pain and irritation. : In such case, if baking soda is applied to the area, it provides relief to the person.</p> <p>A2 : Vitamin E is helpful in relief from sunburns</p> <p><b>A3 On various sunscreen creams/lotions SPF is mentioned. : SPF stands for Sun Protection Factor. SPF 20 means that the lotion is protecting you from 20% of the harmful UV radiations in the sunlight. – (Correct Alternative)</b></p> <p>A4 Vitamin D is required for the absorption of calcium by human : beings</p>	1. 0	0. 25
Objective Question				
6	6		1. 0	0. 25

		<p>Following are some observed natural phenomena :</p> <p>A. Mirage seen in places like deserts</p> <p>B. In winter sound of a whistle of a railway engine is heard at much longer distances</p> <p>C. Twinkling of a star in night as seen by naked eye</p> <p>D. Visibility of sun for some time after the sunset</p> <p>Which of the above natural phenomena are related to the variation in density of atmospheric air?</p> <p>A1 : ABD</p> <p>A2 : BCD</p> <p><b>A3 : ABCD – (Correct Alternative)</b></p> <p>A4 : None of these</p>		
Objective Question				
7	7	<p>The following are some common diseases:</p> <p>A. Diphtheria</p> <p>B. Rabies</p> <p>C. Cholera</p> <p>D. Malaria</p> <p>Which of the above diseases are not caused by Virus?</p> <p>A1 : ABC</p> <p>A2 BCD</p>	1. 0	0. 25

		<p>:</p> <p><b>A3 ADC – (Correct Alternative)</b></p> <p>:</p> <p>A4 ABD</p> <p>:</p>		
Objective Question				
8	8	<p>Which of the following is Greenhouse gas?</p> <p>A1 Carbon Monoxide</p> <p>:</p> <p><b>A2 Carbon Dioxide – (Correct Alternative)</b></p> <p>:</p> <p>A3 Sulphur Dioxide</p> <p>:</p> <p>A4 Chlorine</p> <p>:</p>	1. 0	0. 25
Objective Question				
9	9	<p>Tuberculosis is caused due to</p> <p><b>A1 Bacteria – (Correct Alternative)</b></p> <p>:</p> <p>A2 Virus</p> <p>:</p> <p>A3 Fungus</p> <p>:</p> <p>A4 None of the above</p> <p>:</p>	1. 0	0. 25

Objective Question			
10	10	<p>United Nations Headquarter is situated at</p> <p>A1 : Geneva</p> <p>A2 : Washington D.C.</p> <p>A3 : <b>New York – (Correct Alternative)</b></p> <p>A4 : Paris</p>	1.0. 0 25
Objective Question			
11	11	<p>A seller gives a discount of 25% on a product with MRP marked INR 3680. He earns a profit of 15% over its cost price in this transaction. Cost price of the product is</p> <p>A1 : 2100</p> <p>A2 : 2200</p> <p>A3 : 2300</p> <p>A4 : <b>2400 – (Correct Alternative)</b></p>	1.0. 0 25
Objective Question			
12	12	<p>The side of a rectangular field is in ratio 4:5. Area of the field is 12500 sq mt. If the cost of fencing is INR 5/meter, how much it will cost to fence entire field?</p> <p>A1 : INR 61,000</p>	1.0. 0 25

		<p><b>A2</b> INR 62,500 – (Correct Alternative)</p> <p>:</p> <p>A3 INR 63,500</p> <p>:</p> <p>A4 INR 65,000</p> <p>:</p>		
Objective Question				
13	13	<p>A box has 3 red, 2 yellow and 5 green balls. If two balls are drawn at random, what is the probability that both are yellow balls?</p> <p><b>A1</b> <math>\frac{1}{45}</math> – (Correct Alternative)</p> <p>:</p> <p>A2 <math>\frac{5}{18}</math></p> <p>:</p> <p>A3 <math>\frac{3}{31}</math></p> <p>:</p> <p>A4 <math>\frac{2}{9}</math></p> <p>:</p>	1. 0	0. 25
Objective Question				
14	14	<p>If X and Y together can do a piece of work in 6 days. X alone can do the same work in 15 days. What time will Y take to do the same work alone?</p> <p>A1 8 days</p> <p>:</p> <p>A2 9 days</p> <p>:</p> <p><b>A3 10 days – (Correct Alternative)</b></p>	1. 0	0. 25

		<p>:</p> <p>A4 12 days</p> <p>:</p>		
Objective Question				
15	15	<p>If a solid sphere of radius 15 cm is molded into 27 spherical smaller solid balls of equal radius, then the surface area of each smaller ball is</p> <p>A1 100Ωcm<sup>2</sup> – (Correct Alternative)</p> <p>:</p> <p>A2 105Ωcm<sup>2</sup></p> <p>:</p> <p>A3 110 Ωcm<sup>2</sup></p> <p>:</p> <p>A4 115Ωcm<sup>2</sup></p> <p>:</p>	1.0	0.25
Objective Question				
16	16	<p>Three six-sided dice are rolled simultaneously, what is the probability of getting a different number on each dice?</p> <p>A1 1/3</p> <p>:</p> <p>A2 2/3</p> <p>:</p> <p>A3 4/9</p> <p>:</p> <p>A4 5/9 – (Correct Alternative)</p> <p>:</p>	1.0	0.25



Objective Question				
17	17	<p>The speed of a boat is 20 km/hr in still water. If the river is running at 5 km/hr, it takes boat 96 minutes to go to a place and come back to initial position. How far is the place from the initial point?</p> <p>A1 12 km :</p> <p>A2 13 km :</p> <p><b>A3 15 km – (Correct Alternative)</b> :</p> <p>A4 18 km :</p>	1. 0	0. 25
Objective Question				
18	18	<p>What is the probability of drawing an Ace or a King from a deck of 52 cards?</p> <p>A1 <math>\frac{1}{13}</math> :</p> <p><b>A2 <math>\frac{2}{13}</math> – (Correct Alternative)</b> :</p> <p>A3 <math>\frac{1}{52}</math> :</p> <p>A4 <math>\frac{1}{26}</math> :</p>	1. 0	0. 25
Objective Question				
19	19	<p>A cricketer has an average of 55 runs in 5 innings. Find out how many runs she needed to score in her sixth innings to raise her average to 60 runs?</p> <p>A1 60</p>	1. 0	0. 25

		<p>:</p> <p>A2 75</p> <p>:</p> <p>A3 80</p> <p>:</p> <p><b>A4 85 – (Correct Alternative)</b></p> <p>:</p>		
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Objective Question

20	20	<p>The LCM of two numbers is 900 and their HCF is 50. If one of the numbers is 450, the other is</p> <p>A1 120</p> <p>:</p> <p><b>A2 100 – (Correct Alternative)</b></p> <p>:</p> <p>A3 125</p> <p>:</p> <p>A4 150</p> <p>:</p>	1.0	0.25
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Objective Question

21	21	<p>If you write an original software, what type of IP rights you can get to make and sell copies of your work?</p> <p><b>A1 Copyright – (Correct Alternative)</b></p> <p>:</p> <p>A2 Patents</p> <p>:</p> <p>A3 Registered Designs</p>	1.0	0.25
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		:  A4 Trademarks :		
Objective Question				
22	22	International organization with objective to encourage creative activity and to promote intellectual property throughout world is  A1 WIPO – (Correct Alternative) :  A2 World Bank :  A3 WTO :  A4 UNDP :	1.0 0 25	
Objective Question				
23	23	_____ is a form of intellectual property that protects the expression of ideas  A1 Trade name :  A2 Copyright – (Correct Alternative) :  A3 Patent :  A4 Trade Mark :	1.0 0 25	
Objective Question				

24	24	<p>A formula, process, device or other business information that has commercial value and is kept confidential to maintain an advantage over competitors is known as a:</p> <p>A1 : Patent</p> <p>A2 : <b>Trade secret – (Correct Alternative)</b></p> <p>A3 : Copyright</p> <p>A4 : Trade Mark</p>	1. 0	0. 25
Objective Question				
25	25	<p>Fair use allows you to use a limited amount of copyrighted material for your educational use. Which step below does NOT pass the fair use test?</p> <p>A1 : Will be used for a non-profit educational purpose</p> <p>A2 : <b>Will be used on a Web page – (Correct Alternative)</b></p> <p>A3 : Will only use a small portion</p> <p>A4 : Will not deprive the author from making money</p>	1. 0	0. 25
Objective Question				
26	26	<p>Term of patent in India is</p> <p>A1 : 15 years</p>	1. 0	0. 25

		<p>A2 25 years :</p> <p><b>A3 20 years – (Correct Alternative)</b> :</p> <p>A4 10 years :</p>		
Objective Question				
27	27	<p>What does a trademark protect?</p> <p>A1 An invention :</p> <p>A2 a work of art :</p> <p><b>A3 logos, names and brands – (Correct Alternative)</b> :</p> <p>A4 the look, shape and feel of a product :</p>	1. 0	0. 25
Objective Question				
28	28	<p>If a company develops a new technology that improves its main product, what type of intellectual property can they use to stop others from copying their invention ?</p> <p>A1 Copyright :</p> <p>A2 Geographical indications :</p> <p><b>A3 Patents – (Correct Alternative)</b> :</p>	1. 0	0. 25

		A4 Trademarks :		
Objective Question				
29	29	A patent awarded by the patent office in Japan is valid in:  A1 Indonesia :  <b>A2 Japan – (Correct Alternative)</b> :  A3 All ASEAN countries :  A4 All countries that adhere to TRIPS :	1. 0	0. 25
Objective Question				
30	30	Which of the following is NOT a basic requirement for a patent?  A1 It must have utility :  A2 It must be novel :  A3 It must not be obvious to a person of ordinary skill in the field :  <b>A4 It must be extraordinary creative – (Correct Alternative)</b> :	1. 0	0. 25
Objective Question				
31	31	Choose the word or phrase that is most nearly opposite in meaning to the word in capital letter . LICENSED:	1. 0	0. 25

		<p>A1 : Unnoticed</p> <p>A2 : unwritten</p> <p><b>A3 : not formally authorised – (Correct Alternative)</b></p> <p>A4 : not properly trained</p>		
Objective Question				
32	32	<p>Clear the jumble and select a grammatically correct sentence which also makes sense.</p> <p>To/ pay/ fifty/ rupees/ much/ too/ was/ me/ for/ thousand/ just</p> <p><b>A1 Fifty thousand rupees was just too much for me to pay – : (Correct Alternative)</b></p> <p>A2 : Pay just fifty thousand rupees to me was too much</p> <p>A3 : Fifty thousand rupees was too much just to pay for me</p> <p>A4 : To pay just fifty thousand rupees was too much for me</p>	1. 0	0. 25
Objective Question				
33	33	<p>Select the word or set of words that <u>best</u> completes the following sentence. Because our supply of fossil fuel has been sadly ____, we must find ____ source of energy.</p> <p>A1 : stored.....hoarded</p> <p>A2 : compensated.....significant</p>	1. 0	0. 25

		<p>A3 exhausted....inefficient :</p> <p><b>A4 depleted.....alternate – (Correct Alternative)</b> :</p>		
Objective Question				
34	34	<p>Tick the word <u>closest</u> in meaning to the word in <i>italics</i> - an <i>audacious</i> attempt</p> <p>A1 useless :</p> <p>A2 foolish :</p> <p><b>A3 bold – (Correct Alternative)</b> :</p> <p>A4 crazy :</p>	1. 0	0. 25
Objective Question				
35	35	<p>Choose the most appropriate word to complete the following sentence: There is a _____ of cows in the next field.</p> <p>A1 Flock :</p> <p>A2 Swarm :</p> <p>A3 Group :</p> <p><b>A4 Herd – (Correct Alternative)</b></p>	1. 0	0. 25



		:		
Objective Question				
36	36	Choose the phrase which fits the sentence best : The bus _____ coming.	1. 0	0. 25
		A1 Will :		
		A2 Has :		
		A3 Is – (Correct Alternative) :		
		A4 On :		
Objective Question				
37	37	Choose the correctly spelt word:	1. 0	0. 25
		A1 adversity – (Correct Alternative) :		
		A2 adeversity :		
		A3 advercity :		
		A4 aedversity :		
Objective Question				
38	38	Which of the following words best explains the phrase given below? One who abandons his religious faith.	1. 0	0. 25

		<p>A1 traitor :</p> <p>A2 apostate – (Correct Alternative) :</p> <p>A3 prostrate :</p> <p>A4 blasphemmer :</p>		
Objective Question				
39	39	<p>Select the word that is most appropriate to complete the sentence: He was blind _____ one eye.</p> <p>A1 with :</p> <p>A2 along :</p> <p>A3 in – (Correct Alternative) :</p> <p>A4 on :</p>	1. 0	0. 25
Objective Question				
40	40	<p>Choose the word or phrase that is most nearly opposite in meaning to the given word. <b>Widely</b></p> <p>A1 narrowly – (Correct Alternative) :</p> <p>A2 spaciouly :</p>	1. 0	0. 25

		<p>A3 broadly :</p> <p>A4 relatively :</p>		
Objective Question				
41	41	<p>Which of the following are prime numbers?</p> <p>A1 1,3,5 :</p> <p>A2 1,5,7 :</p> <p>A3 2,3,5 – (Correct Alternative) :</p> <p>A4 1,7,9 :</p>	1. 0	0. 25
Objective Question				
42	42	<p>A watch which gains 5 seconds in 3 minutes was set right at 7 a.m. In the afternoon of the same day, when the watch indicated quarter past 4 o'clock, the true time is</p> <p>A1 <math>59\frac{7}{11}</math> min. past 3 p.m. :</p> <p>A2 4 P.M. – (Correct Alternative) :</p> <p>A3 <math>58\frac{7}{11}</math> min., past 3 p.m. :</p> <p>A4 <math>2\frac{3}{11}</math> min. past 4 p.m. :</p>	1. 0	0. 25

Objective Question				
43	43	<p>In a shower, 5 cm of rain falls. The volume of water that falls on 1.5 hectares of ground is</p> <p>A1 : 75 cu. m</p> <p>A2 : 750 cu. m – (Correct Alternative)</p> <p>A3 : 7500 cu. m</p> <p>A4 : 75000 cu. m</p>	1. 0	0. 25
Objective Question				
44	44	<p>The total time taken by a boatman to row his boat upstream and downstream distance of 56 km together is 12 hours. The difference between times taken by him to row his boat another upstream and downstream distance of 42 km is 3 hours. Find the speed of boat and stream.</p> <p>A1 : 12.5 kmph, 1.5 kmph</p> <p>A2 : 11.5 kmph, 2.5 kmph</p> <p>A3 : 9.5 kmph, 4.5 kmph</p> <p>A4 : 10.5 kmph, 3.5 kmph – (Correct Alternative)</p>	1. 0	0. 25
Objective Question				
45	45	<p>A says to B “I am twice as old as you were when I was as old as you are”. The sum of their ages is 56 years. Find the difference of their ages.</p>	1. 0	0. 25

		<p>A1 9 :</p> <p>A2 11 :</p> <p>A3 13 :</p> <p><b>A4 8 – (Correct Alternative)</b> :</p>		
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Objective Question

46	46	<p>A container contains 40 litres of milk. From this container 4 litres of milk was taken out and replaced by water. This process was repeated further two times. How much milk is now contained by the container?</p> <p>A1 26.16 :</p> <p>A2 28.16 :</p> <p><b>A3 29.16 – (Correct Alternative)</b> :</p> <p>A4 30.16 :</p>	1.0. 0 25	
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Objective Question

47	47	<p>How many times is the HCF of 48, 36, 72, and 24 contained in their LCM?</p> <p>A1 8 times :</p> <p>A2 16 times</p>	1.0. 0 25	
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		<p>:</p> <p><b>A3 12 times – (Correct Alternative)</b></p> <p>:</p> <p>A4 4 times</p> <p>:</p>		
Objective Question				
48	48	<p>In how many different ways can the letters of the word 'OPTICAL' be arranged so that the vowels always come together?</p> <p>A1 120</p> <p>:</p> <p><b>A2 720 – (Correct Alternative)</b></p> <p>:</p> <p>A3 4320</p> <p>:</p> <p>A4 1440</p> <p>:</p>	1. 0	0. 25
Objective Question				
49	49	<p>Tea worth Rs. 126 per kg and Rs. 135 per kg are mixed with a third variety in the ratio 1:1:2. If the mixture is worth Rs. 153 per kg, the price of the third variety per kg will be:</p> <p>A1 Rs. 169.50</p> <p>:</p> <p>A2 Rs. 170</p> <p>:</p> <p>A3 Rs. 180</p> <p>:</p>	1. 0	0. 25

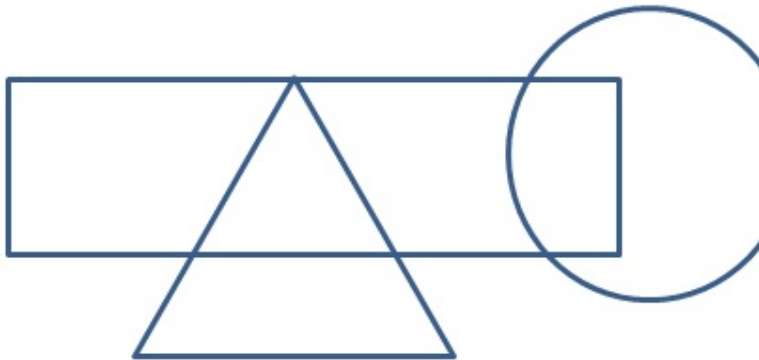
		<b>A4</b> : <b>Rs. 175.50 – (Correct Alternative)</b>		
Objective Question				
50	50	<p>In an exam, Class A scored an average of 50 marks with standard deviation of 5. Class B scored an average of 50 with standard deviation of 9. Which of the following statements is true?</p> <p>A1 : Class B has more students than Class A.</p> <p>A2 : Class A has more students than Class B</p> <p>A3 : Class A has more outlier students than Class B</p> <p><b>A4 Class B has more outlier students than Class A – (Correct Alternative)</b></p>	1. 0	0. 25
Objective Question				
51	51	<p>C is favorite child of F. C is fond of her younger brother B. B is not the only sibling of A. F loves her father M. What is A to M?</p> <p><b>A1</b> : <b>Grand child – (Correct Alternative)</b></p> <p>A2 : Grand parent</p> <p>A3 : No relation</p> <p>A4 : Parent</p>	1. 0	0. 25
Objective Question				
52	52	<p>If HEN = 124; WIRE = 9752; and RAT = 538, EATEN is _____?</p>	1. 0	0. 25

		<p>A1 28324 :</p> <p>A2 23874 :</p> <p><b>A3 23824 – (Correct Alternative)</b> :</p> <p>A4 42832 :</p>		
Objective Question				
53	53	<p>A pen was marked as Rs 1000. After a good negotiation, I bought it at a discount of 20%. Now I am offering the same pen at 20% profit. What is the difference between the new price and old price?</p> <p>A1 Rs. 160 :</p> <p>A2 Rs. 200 :</p> <p><b>A3 Rs. 40 – (Correct Alternative)</b> :</p> <p>A4 No difference :</p>	1. 0	0. 25
Objective Question				
54	54	<p>In Roman numerals, M, L, and XL stand for _____.</p> <p><b>A1 1000, 50, 40 – (Correct Alternative)</b> :</p> <p>A2 40, 42, 44 :</p>	1. 0	0. 25



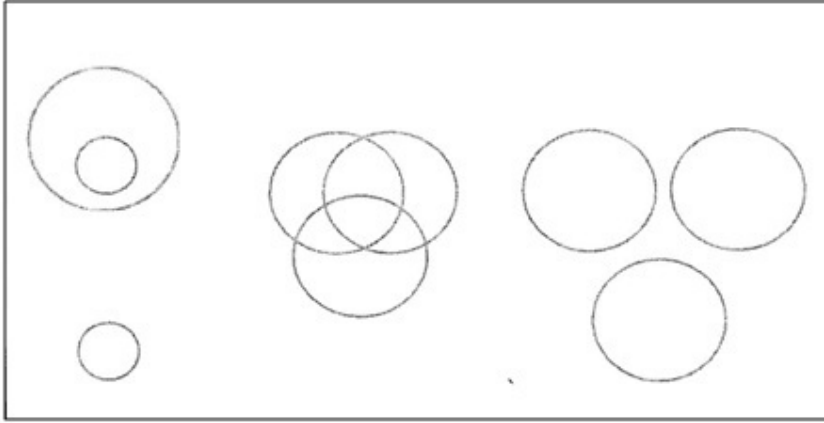
		<p>A3 30, 40, 50 :</p> <p>A4 1000, 40, 50 :</p>		
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Objective Question

55	55	<p>In the following diagram, triangle represents mathematicians, rectangle represents programmers and circle represents philosophers. Which of the following is incorrect?</p>  <p>A1 Some of the philosophers are programmers. :</p> <p>A2 Some of the programmers are mathematicians. :</p> <p><b>A3 Some of the mathematicians are philosophers. – (Correct Alternative)</b></p> <p>A4 Some of the programmers are not mathematicians :</p>	1. 0	0. 25
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Objective Question

56	56		1. 0	0. 25
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		<p>Which of the diagrams best fits the association between Sparrow.</p> <div></div> <p>A                      B                      C</p> <p>A1 : A – (Correct Alternative)</p> <p>A2 : B</p> <p>A3 : C</p> <p>A4 : D</p>		
Objective Question				
57	57	<p>A person walks at 10km/h for 6hr and at 8km/h for 12hr. Her average speed is ____ km/h</p> <p>A1 : 6.22</p> <p>A2 8.67 – (Correct Alternative)</p>	1. 0	0. 25

		<p>:</p> <p>A3 3.77</p> <p>:</p> <p>A4 9</p> <p>:</p>		
Objective Question				
58	58	<p>If K and M together own 1750 balls. If <math>\frac{4}{25}</math> of K's share is equal to <math>\frac{2}{5}</math> of M's share, how many balls M have?</p> <p>A1 1250</p> <p>:</p> <p>A2 500 – (Correct Alternative)</p> <p>:</p> <p>A3 750</p> <p>:</p> <p>A4 1050</p> <p>:</p>	1. 0	0. 25
Objective Question				
59	59	<p>A large number of people suffer from Dengue every year in India. Dengue is spread by female mosquitoes during the day time. Dengue can be prevented by avoiding all chances of mosquitoes breeding. The para best supports the statement that</p> <p>A1 Male mosquitoes do not spread diseases</p> <p>:</p> <p>A2 People should not step out during the day time</p> <p>:</p> <p>A3 Mosquitoes breeding should be stopped – (Correct Alternative)</p> <p>:</p>	1. 0	0. 25

		A4 : Dengue is the only diseases that affects Indian people		
Objective Question				
60	60	<p>A player was asked to run around the circular cricket ground as punishment. The coach was standing at the exact center of the ground which was 100 M from the boundary. How much distance does the player cover in one round?</p> <p>A1 : 200.8</p> <p>A2 : 628.32 – (Correct Alternative)</p> <p>A3 : 800.8</p> <p>A4 : 400.4</p>	1. 0	0. 25
Objective Question				
61	61	<p>The stopping sight distance depends upon</p> <p>A1 : Total reaction time of driver</p> <p>A2 : Speed of vehicle</p> <p>A3 : Efficiency of brakes</p> <p>A4 : All of the above – (Correct Alternative)</p>	1. 0	0. 25
Objective Question				

62	62	<p>In the design of rigid pavements most often the highest magnitude of stress is</p> <p>A1 : Friction stress during construction</p> <p>A2 : <b>Corner load stress – (Correct Alternative)</b></p> <p>A3 : Edge load stress</p> <p>A4 : Interior load stress</p>	1. 0	0. 25
Objective Question				
63	63	<p>Consider the following characteristics of certain highway construction materials:</p> <ol style="list-style-type: none"> <li>1. CBR =80%</li> <li>2. Group index =5</li> <li>3. Group index =15</li> <li>4. Soil classification –CH</li> </ol> <p>The correct decreasing order of their stability will be:</p> <p>A1 : <b>1, 2, 3, 4 – (Correct Alternative)</b></p> <p>A2 : 2, 1, 3, 4</p> <p>A3 : 3, 2, 1, 4</p> <p>A4 : 1, 2, 4, 3</p>	1. 0	0. 25
Objective Question				
64	64	<p>The value of camber recommended for cement concrete roads in heavy rainfall area is</p>	1. 0	0. 25

		<p>A1 1 in 33 :</p> <p>A2 1 in 40 :</p> <p><b>A3 1 in 50 – (Correct Alternative)</b> :</p> <p>A4 1 in 60 :</p>		
Objective Question				
65	65	<p>Factors affecting the highway alignment are</p> <p>A1 Traffic :</p> <p>A2 Geometric design :</p> <p>A3 Economy :</p> <p><b>A4 All the above – (Correct Alternative)</b> :</p>	1. 0	0. 25
Objective Question				
66	66	<p>Bitumen is derive from</p> <p>A1 Destructive distillation of coal tar :</p> <p>A2 Destructive distillation of petroleum :</p> <p><b>A3 Fractional distillation of petroleum – (Correct Alternative)</b></p>	1. 0	0. 25

		:  A4 Naturally occurring ores :		
Objective Question				
67	67	The mix design of concrete pavement is based on  A1 Flexural strength – (Correct Alternative) :  A2 Compressive strength :  A3 Shear strength :  A4 Bond strength :	1.0 0	0.25
Objective Question				
68	68	Base course is used in rigid pavement for  A1 Prevention of subgrade settlement :  A2 Prevention of slag cracking :  A3 Prevention of pumping – (Correct Alternative) :  A4 Prevention of thermal expansion :	1.0 0	0.25
Objective Question				
69	69	Name the traffic survey data which is plotted by means of 'desire lines'	1.0 0	0.25

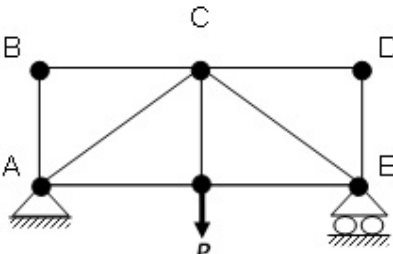
		<p>A1 Accident :</p> <p>A2 Classified volume :</p> <p><b>A3 Origin and destination – (Correct Alternative)</b> :</p> <p>A4 Speed and delay :</p>		
Objective Question				
70	70	<p>The charts showing the volume variations over a period of years are known as</p> <p><b>A1 Trend charts – (Correct Alternative)</b> :</p> <p>A2 Variation charts :</p> <p>A3 Traffic flow maps :</p> <p>A4 Volume flow diagram :</p>	1. 0	0. 25
Objective Question				
71	71	<p>Which of the following tests does not measure the workability of concrete</p> <p>A1 Slump test :</p> <p><b>A2 Los Angeles test – (Correct Alternative)</b> :</p>	1. 0	0. 25



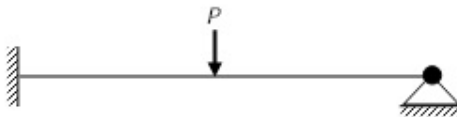

		<p>A3 Compacting factor test :</p> <p>A4 Vebe test :</p>		
Objective Question				
72	72	<p>Rs. 50,000 is equivalent to what annual payment for a period of 10 years at an interest rate of 10%</p> <p>A1 Rs. 9,370 :</p> <p>A2 Rs. 8,680 :</p> <p>A3 Rs. 8,300 :</p> <p><b>A4 Rs. 8,135 – (Correct Alternative)</b> :</p>	1.0 0 25	
Objective Question				
73	73	<p>A project network has five paths P1, P2, P3, P4, and P5. The total activity duration computed along each of the path is 22, 31, 20, 30, and 19 days respectively. What is the minimum duration for project completion in days?</p> <p>A1 22 :</p> <p><b>A2 31 – (Correct Alternative)</b> :</p> <p>A3 19 :</p>	1.0 0 25	

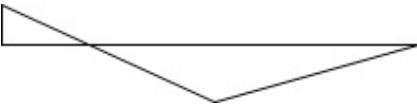


		A4 : Not possible to estimate		
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### Objective Question

74	74	<p>Force in the member AB</p>  <p>A1 : <math>P/2</math></p> <p>A2 : 0 – (Correct Alternative)</p> <p>A3 : <math>P</math></p> <p>A4 : <math>P/4</math></p>	1. 0	0. 25
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### Objective Question

75	75	<p>The correct bending moment diagram for the beam shown in the figure is</p>  <p>A1 : </p>	1. 0	0. 25
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		<p><b>A2</b> :  – (Correct Alternative)</p> <p>A3 : </p> <p>A4 : </p>		
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Objective Question

76	76	<p>The purpose of adding ammonia to potable water is to</p> <p>A1 : adjust pH</p> <p><b>A2 : form combined chlorine residual – (Correct Alternative)</b></p> <p>A3 : remove turbidity</p> <p>A4 : protect teeth</p>	1. 0	0. 25
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Objective Question

77	77	<p>As per the code, in general, the limit state of serviceability in deflection is achieved by</p> <p>A1 : Providing extra safety factor in load</p> <p>A2 : Decreasing the tension reinforcement</p> <p><b>A3 Controlling span to effective depth ratio – (Correct Alternative)</b></p>	1. 0	0. 25
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		A4 Increasing the tension reinforcement :		
Objective Question				
78	78	Coarse grained soils are best compacted by the following roller.  A1 Vibratory – (Correct Alternative) :  A2 Smooth wheel :  A3 Sheep foot :  A4 Pneumatic :	1. 0	0. 25
Objective Question				
79	79	The stopping sight distance (270 m) in a sag vertical curve (with tangent slopes +0.5% and +3.5%) is greater than the curve length. The curve length when rest other factors taken as per IRC standard, is  A1 175 m – (Correct Alternative) :  A2 266 m :  A3 200 m :  A4 None of these :	1. 0	0. 25
Objective Question				

80	80	<p>Fresh sludge has moisture content of 98% and, after thickening; its moisture content is reduced to 96%. The reduction in the volume of sludge will be</p> <p>A1 : 2%</p> <p>A2 : 4%</p> <p><b>A3 : 50% – (Correct Alternative)</b></p> <p>A4 : 100%</p>	1. 0	0. 25
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Objective Question

81	81	<p>An incompressible body can change its</p> <p><b>A1 : shape and surface area. – (Correct Alternative)</b></p> <p>A2 : only shape</p> <p>A3 : volume</p> <p>A4 : none of these</p>	1. 0	0. 25
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Objective Question

82	82	<p>Newton's second law holds only for</p> <p>A1 : single particle.</p> <p>A2 system of particles</p>	1. 0	0. 25
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		<p>:</p> <p>A3 continuum body</p> <p>:</p> <p><b>A4 all of these – (Correct Alternative)</b></p> <p>:</p>		
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Objective Question

83	83	<p>A particle is moving in a circle of radius 1 m and with a constant speed of 5 m/s. What is the acceleration of the particle?</p> <p>A1 zero</p> <p>:</p> <p><b>A2 25m/s<sup>2</sup> towards the centre – (Correct Alternative)</b></p> <p>:</p> <p>A3 25m/s<sup>2</sup> away from the centre</p> <p>:</p> <p>A4 none of these</p> <p>:</p>	1. 0	0. 25
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Objective Question

84	84	<p>In the classical elasticity theory, the stress matrix is symmetric only when</p> <p>A1 the body is in static equilibrium</p> <p>:</p> <p>A2 the body may be accelerating but not rotating</p> <p>:</p> <p><b>A3 always – (Correct Alternative)</b></p> <p>:</p> <p>A4 never</p>	1. 0	0. 25
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Objective Question				
85	85	How much is the shear stress when a body is in hydrostatic state of stress?	1.0	0.25
		A1 : depends on which plane we are looking at		
		A2 : zero always – (Correct Alternative)		
		A3 : more information required		
		A4 : none of these		
Objective Question				
86	86	When a transverse load is applied at the free end of a cantilever having non-symmetrical cross-section, the cantilever does not twist if	1.0	0.25
		A1 : the load passes through the cross-section's centroid		
		A2 : the load passes through shear center – (Correct Alternative)		
		A3 : the cantilever never twists		
		A4 : none		
Objective Question				
87	87	A linearly isotropic elastic beam buckles	1.0	0.25

		<p>A1 : when under tensile load</p> <p>A2 : even under slight compressive load</p> <p>A3 : after critical compressive load – (Correct Alternative)</p> <p>A4 : none</p>		
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### Objective Question

88	88	<p>For the truss shown, the zero force members are (all members are light and joints are all frictionless hinges)</p> <p>A1 : only HJ and JK</p> <p>A2 : all of them except BD, DG, GI and IK – (Correct Alternative)</p> <p>A3 : no zero force members</p> <p>A4 : none of these</p>	1.0	0.25
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### Objective Question

89	89	<p>Two smooth balls of equal masses undergo head-on collision. Assuming the coefficient of restitution to be unity. What can you say about their velocities just after collision?</p>	1.0	0.25
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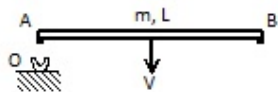


		<p><b>A1</b> : velocities will be exchanged – (Correct Alternative)</p> <p><b>A2</b> : the ball moving fast initially will come to rest</p> <p><b>A3</b> : both will start moving together</p> <p><b>A4</b> : none of these</p>		
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Objective Question

90	90	<p>Two forces 'F1' and 'F2' act in space at two different points. They have same magnitude but act in different directions. The moment of 'F2' about the line of action of 'F1' and the moment of 'F1' about the line of action of 'F2' are</p> <p><b>A1</b> : same – (Correct Alternative)</p> <p><b>A2</b> : both zero always</p> <p><b>A3</b> : different</p> <p><b>A4</b> : none of these</p>	1. 0	0. 25
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Objective Question

91	91	<p>A uniform rod of mass 'm' and length 'L' is translating with a constant velocity 'V' as shown. The knob at A gets locked to the socket at O (fixed to the ground) on impact but the rod is free to rotate about O</p>  <p>The velocity of point B immediately after the impact is</p>	1. 0	0. 25
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		<p>A1 32 V – (Correct Alternative)</p> <p>:</p> <p>A2 V</p> <p>:</p> <p>A3 0</p> <p>:</p> <p>A4 none of these</p> <p>:</p>		
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#### Objective Question

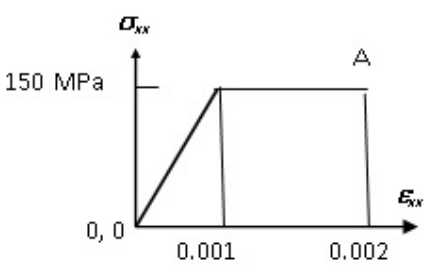
92	92	<p>The equation <math>\frac{\partial \rho}{\partial t} + \frac{\partial(\rho u)}{\partial x} + \frac{\partial(\rho v)}{\partial y} + \frac{\partial(\rho w)}{\partial z} = 0</math>,</p> <p>where, <math>\rho</math> is the fluid density and <math>u</math>, <math>v</math>, and <math>w</math> are the velocity components in directions, respectively, is valid for</p> <p>A1 liquids only</p> <p>:</p> <p>A2 Newtonian fluids only</p> <p>:</p> <p>A3 any fluid flow – (Correct Alternative)</p> <p>:</p> <p>A4 steady flows only</p> <p>:</p>	1. 0	0. 25
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#### Objective Question

93	93	<p>The Navier-Stokes equation is valid ONLY for</p> <p>A1 compressible flows</p> <p>:</p>	1. 0	0. 25
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		<p>A2 : Newtonian fluids</p> <p>A3 : all liquids – (Correct Alternative)</p> <p>A4 : steady flows</p>		
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Objective Question				
94	94	<p>If the principal stresses at a point in a body are: (i) <math>\sigma_{11} = 100</math> MPa, <math>\sigma_{22} = 0</math> MPa, <math>\sigma_{33} = -30</math> MPa, the maximum shear stress at the point will be</p> <p>A1 : 65 Mpa – (Correct Alternative)</p> <p>A2 : 50 MPa</p> <p>A3 : 30 MPa</p> <p>A4 : none of these</p>	1. 0	0. 25

Objective Question				
95	95	<p>For the stress-strain curve shown, how much is the plastic strain at point A.</p>  <p>A1 : 0.001 – (Correct Alternative)</p>	1. 0	0. 25

		<p>A2 0.002 :</p> <p>A3 0 :</p> <p>A4 none of these :</p>		
Objective Question				
96	96	<p>An inviscid incompressible flow</p> <p>A1 can have non-zero vorticity :</p> <p>A2 always has vorticity :</p> <p><b>A3 is always free of vorticity – (Correct Alternative)</b> :</p> <p>A4 none of these :</p>	1. 0	0. 25
Objective Question				
97	97	<p>Shear traction can act in a fluid media if</p> <p>A1 fluid is static. :</p> <p>A2 fluid is viscous but static :</p> <p>A3 fluid is ideal but moving :</p> <p><b>A4 fluid is viscous and moving – (Correct Alternative)</b></p>	1. 0	0. 25

		:		
Objective Question				
98	98	<p>For the stress The location of point P is <math>(x=1, y=1, z=0)</math>. The speed of P is 2m/s and the rate of change of speed is <math>0.2\text{m/s}^2</math>. The <b>centre</b> of curvature of the path taken by P lies at (1, 2, 0) at this instant. Then the acceleration of P, at this instant, is</p> <p>A1 <math>(0.2\mathbf{i} + 4\mathbf{j}) \text{ m/s}^2</math> :</p> <p>A2 <math>(\pm 0.2\mathbf{i} + 4\mathbf{j}) \text{ m/s}^2</math> – (Correct Alternative) :</p> <p>A3 <math>(0.2\mathbf{i} \pm 4\mathbf{j}) \text{ m/s}^2</math> :</p> <p>A4 <math>(\pm 0.2\mathbf{i} \pm 4\mathbf{j}) \text{ m/s}^2</math> :</p>	1. 0	0. 25
Objective Question				
99	99	<p>The Reynolds transport theorem is valid for</p> <p>A1 steady flows only :</p> <p>A2 Newtonian fluids only :</p> <p>A3 any general fluid continuum – (Correct Alternative) :</p> <p>A4 incompressible flows only :</p>	1. 0	0. 25
Objective Question				
100	100	<p>What would be the deflection of the tip of an Euler-Bernouli cantilever beam of length L, Young's modulus E, and area moment of inertia I, if the transverse load acting at the free end of beam is P.</p>	1. 0	0. 25

		<p><b>A1</b> : <math>(PL^3)/(3EI)</math> – (Correct Alternative)</p> <p>A2 : <math>(PL^3)/(4EI)</math></p> <p>A3 : <math>(PL^3)/(EI)</math></p> <p>A4 : none of these</p>		
Objective Question				
101 1	101	<p>A grain boundary can be defined where</p> <p>A1 : Two crystals of same orientations meet</p> <p><b>A2 Two crystals of different orientations meet – (Correct Alternative)</b></p> <p>A3 : Two crystals exhibit mirror symmetry</p> <p>A4 : Two crystals of different kinds meet</p>	1.0 0 25	
Objective Question				
102 2	102	<p>Which of the following cannot be produced by continuous cooling of a plain carbon steel</p> <p>A1 : Coarse pearlite</p> <p>A2 : Fine pearlite</p>	1.0 0 25	

		<p>A3 (a) Bainite :</p> <p>A4 (a) Martensite – (Correct Alternative) :</p>		
Objective Question				
103	103	<p>Toughness of the material can be expressed by</p> <p>A1 Ratio of ultimate tensile strength to yield strength :</p> <p>A2 Ratio of fracture strength to yield strength :</p> <p>A3 Area under the stress strain curve – (Correct Alternative) :</p> <p>A4 None of the above :</p>	1.0	0.25
Objective Question				
104	104	<p>Hardness of the material can be described as</p> <p>A1 Resistance to elastic deformation :</p> <p>A2 Resistance to plastic deformation – (Correct Alternative) :</p> <p>A3 Resistance to both elastic and plastic deformation :</p> <p>A4 None of the above :</p>	1.0	0.25
Objective Question				

105	105	Which of the following material has the highest ductility	1.0	0.25
		<p><b>A1 Aluminium – (Correct Alternative)</b></p> <p>A2 Magnesium</p> <p>A3 Zinc</p> <p>A4 Alumina</p>		

Objective Question

106	106	Which of the following is a measure of forecasting model accuracy:	1.0	0.25
		<p><b>A1 Mean absolute deviation – (Correct Alternative)</b></p> <p>A2 Standard deviation</p> <p>A3 Reorder point</p> <p>A4 Average lead time</p>		

Objective Question

107	107	Which of the following costs can be considered in determining inventory parameters:	1.0	0.25
		<p>A1 Carrying cost</p> <p>A2 Ordering cost</p>		



		<p>A3 Shortage cost :</p> <p>A4 All of the above – (Correct Alternative) :</p>		
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Objective Question

108	108	<p>Which of the following is not a material planning feature:</p> <p>A1 Bill of material :</p> <p>A2 Lead time offsetting :</p> <p>A3 Safety stock :</p> <p>A4 Delivery reliability – (Correct Alternative) :</p>	1.0 0 25	
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Objective Question

109	109	<p>Lot size and safety stock in 'Just in Time' (JIT) system are:</p> <p>A1 Small – (Correct Alternative) :</p> <p>A2 Large :</p> <p>A3 Unpredictable :</p> <p>A4 None of the above :</p>	1.0 0 25	
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Objective Question

110	110	<p>Which of the following provide a basic feasible solution to balanced transportation problem:</p> <p>A1 : North West Corner rule</p> <p>A2 : Minimum cost method</p> <p>A3 : Vogel's approximation method</p> <p><b>A4 : All of the above – (Correct Alternative)</b></p>	1.0	0.25
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Objective Question

111	111	<p>In a stress strain curve, increase in temperature reflects:</p> <p>A1 : Lowers toughness</p> <p><b>A2 : Raised toughness – (Correct Alternative)</b></p> <p>A3 : Raised modulus of elasticity</p> <p>A4 : Raised yield stress</p>	1.0	0.25
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Objective Question

112	112	<p>Which of the following is NOT a measure of ductility:</p> <p><b>A1 : Modulus of elasticity – (Correct Alternative)</b></p> <p>A2 : Total elongation</p>	1.0	0.25
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		<p>A3 Reduction in area :</p> <p>A4 B&amp;C :</p>		
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Objective Question

113	113	<p>Which of the following metal has a FCC crystal structure:</p> <p>A1 Aluminum – (Correct Alternative) :</p> <p>A2 Chromium :</p> <p>A3 Vanadium :</p> <p>A4 Zirconium :</p>	1.0 0.25	
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Objective Question

114	114	<b>Match the following</b>				1.0	0.25
			Description		Prope		
I		Resistance to permanent indentation		L	Creep		
II		Plastic deformation up to fracture point		M	Tough		
III		Permanent elongation under static loading		N	Hardn		
IV		Area under stress-strain curve		P	Ductil		

		<p>A1 : I-N, II-L, III-M, IV-P</p> <p>A2 : I-L, II-M, III-N, IV-P</p> <p><b>A3 : I-N, II-P, III-L, IV-M – (Correct Alternative)</b></p> <p>A4 : I-L, II-N, III-P, IV-M</p>		
Objective Question				
11 5	115	<p>Presence of Hydrogen in metals can cause:</p> <p>A1 : Severe embrittlement</p> <p>A2 : Reduce ductility</p> <p>A3 : Premature failure</p> <p><b>A4 : All of the above – (Correct Alternative)</b></p>	1. 0	0. 25
Objective Question				
11 6	116		1. 0	0. 25

Match the following in reference to the Iron-Carbon			
	Relevance		State
I	Polymorphic transformation of Iron	L	Ferr
II	Solid solution of BCC Iron	M	Aust
III	100% Iron Carbide	N	Cem
<p>A1 : I-L, II-N, III-M</p> <p>A2 : I-N, II-M, III-L</p> <p>A3 : I-L, II-M, III-N</p> <p><b>A4 : I-M, II-L, III-N – (Correct Alternative)</b></p>			
Objective Question			
117	117	Crank shafts are generally made up of:	1. 0.25
		<p>A1 : Low carbon steel</p> <p><b>A2 : Medium carbon steel – (Correct Alternative)</b></p> <p>A3 : High carbon steel</p> <p>A4 : High speed steel</p>	

Objective Question														
118	118	<p><b>Match the following:</b></p> <table> <tr> <th>Application</th> <th>Alloy</th> </tr> <tr> <td>I Orthopedic Implants</td> <td>L Nickel</td> </tr> <tr> <td>II Nuclear Power Plants</td> <td>M Magnesium</td> </tr> <tr> <td>III Aerospace</td> <td>N Titanium</td> </tr> <tr> <td>IV Missile Components</td> <td>P Aluminum</td> </tr> </table> <p>A1 : I-L, II-N, III-P,IV-M</p> <p>A2 : I-L, II-M, III-P,IV-N</p> <p><b>A3 : I-N, II-L, III-P,IV-M – (Correct Alternative)</b></p> <p>A4 : I-M, II-L, III-P,IV-N</p>	Application	Alloy	I Orthopedic Implants	L Nickel	II Nuclear Power Plants	M Magnesium	III Aerospace	N Titanium	IV Missile Components	P Aluminum	1.0	0.25
Application	Alloy													
I Orthopedic Implants	L Nickel													
II Nuclear Power Plants	M Magnesium													
III Aerospace	N Titanium													
IV Missile Components	P Aluminum													
Objective Question														
119	119	<p>Down milling provides:</p> <p><b>A1 : Better surface finish – (Correct Alternative)</b></p> <p>A2 : Poor surface finish</p> <p>A3 : Shorter tool life</p> <p>A4 : All of the above</p>	1.0	0.25										
Objective Question														

1200	120	<p>The tendency to form a built-up edge (BUE) can be reduced by:</p> <p>A1 : Decreasing the rake angle</p> <p>A2 : Decreasing depth of cut</p> <p>A3 : Increasing the rake angle</p> <p><b>A4 Decreasing depth of cut and Increasing the rake angle – : (Correct Alternative)</b></p>	1.00	0.25
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